

FIGURE 1A

**Cypal - PSoC Designer - [Device Editor]**

File Edit View Project Config Build Debug Program Tools Monitor Help

User Modules selected for placement

ADCs Counter DACs Amplifiers PWMs

125

123

Analogue Blocks	Digital Blocks	Total	Used
8	120	128	0
FLASH	0	4096	108
ROM			

124

**CYPRESS MICROSYSTEMS**

**16-Bit Pulse Width Modulator**

PWM16  
Revision B

Resources	Required	Optional
PSoC™ Blocks	2 Digital, 0 Analogue	
Memory	66 bytes FLASH, 0 bytes SRAM	SRAM in Default Interrupt Routine
Pins		1 per External I/O

123

Serial User Modules  
Timers

Resources Overview Diagram Features Description Specs Parameters Placement Timing API Simple Code Registers

FIGURE 1B

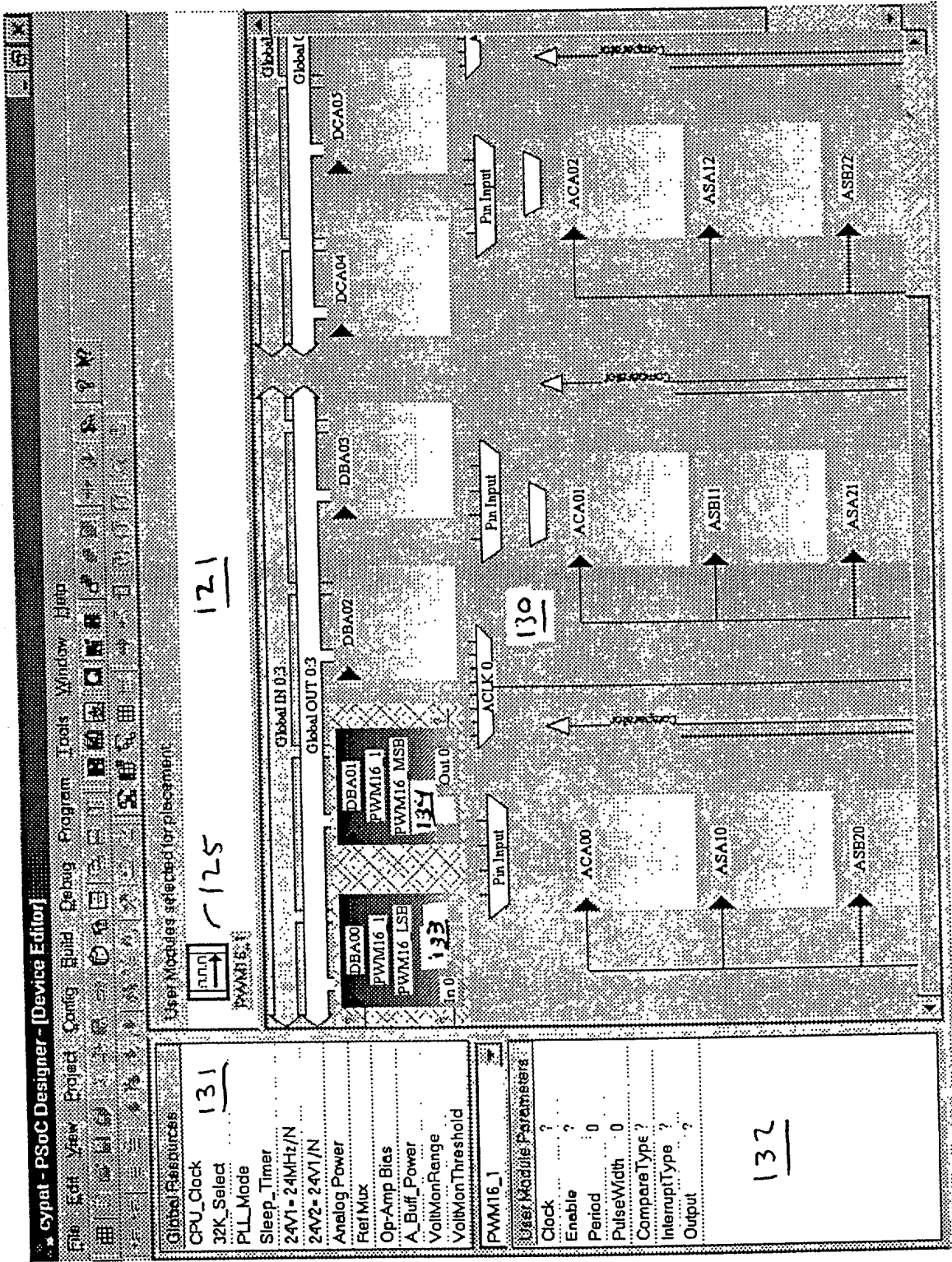


FIGURE 1C

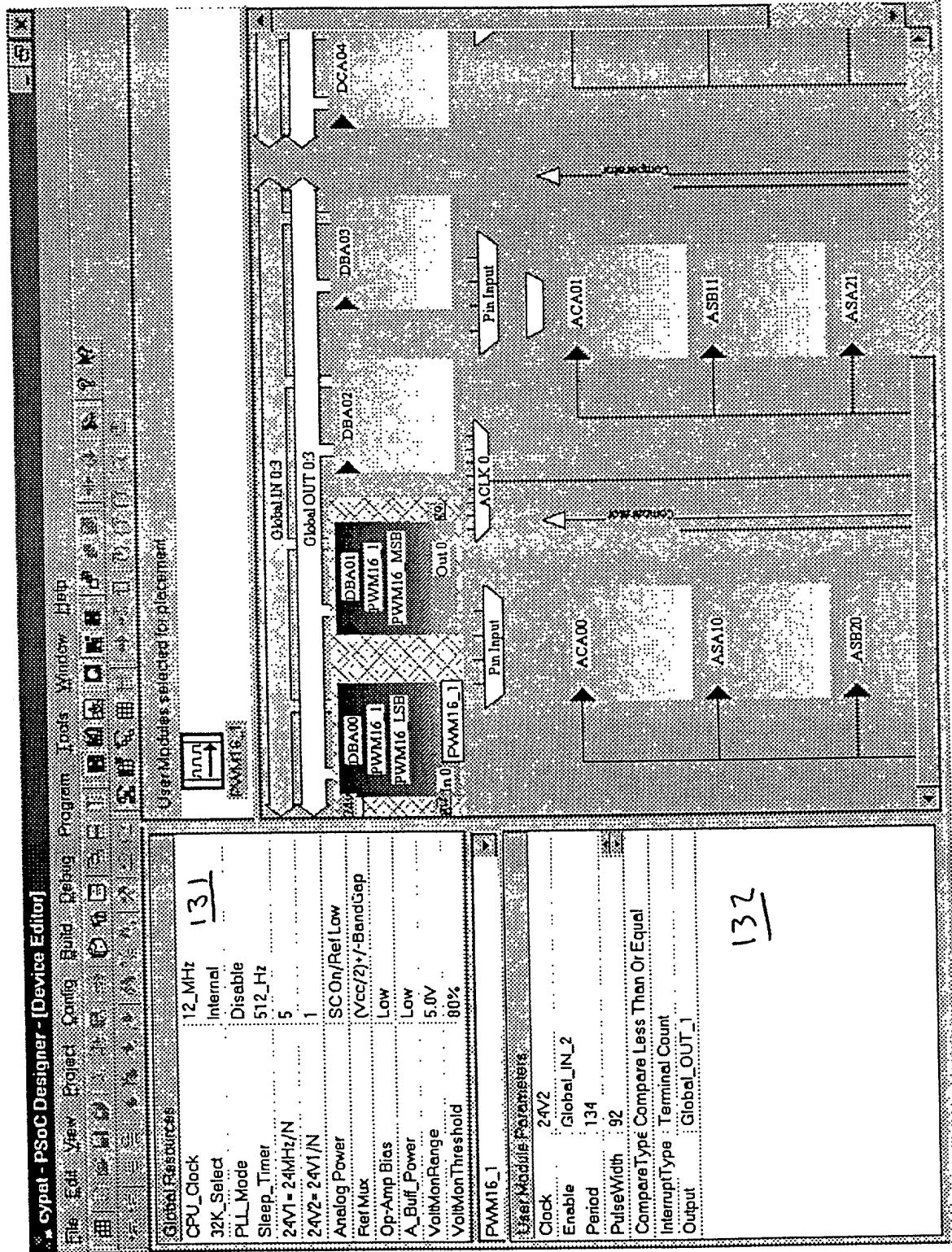


FIGURE 1D

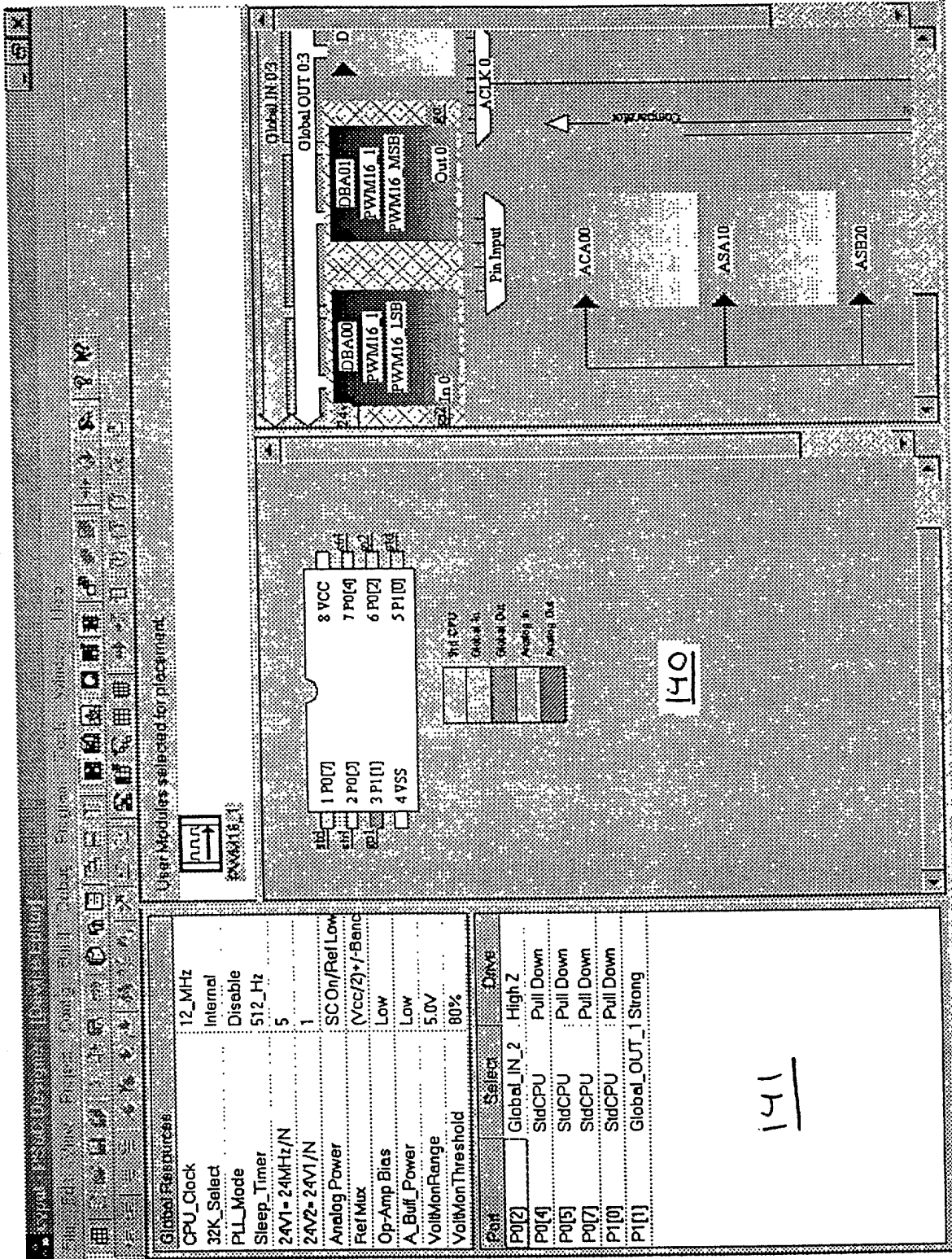


FIGURE 1E

200

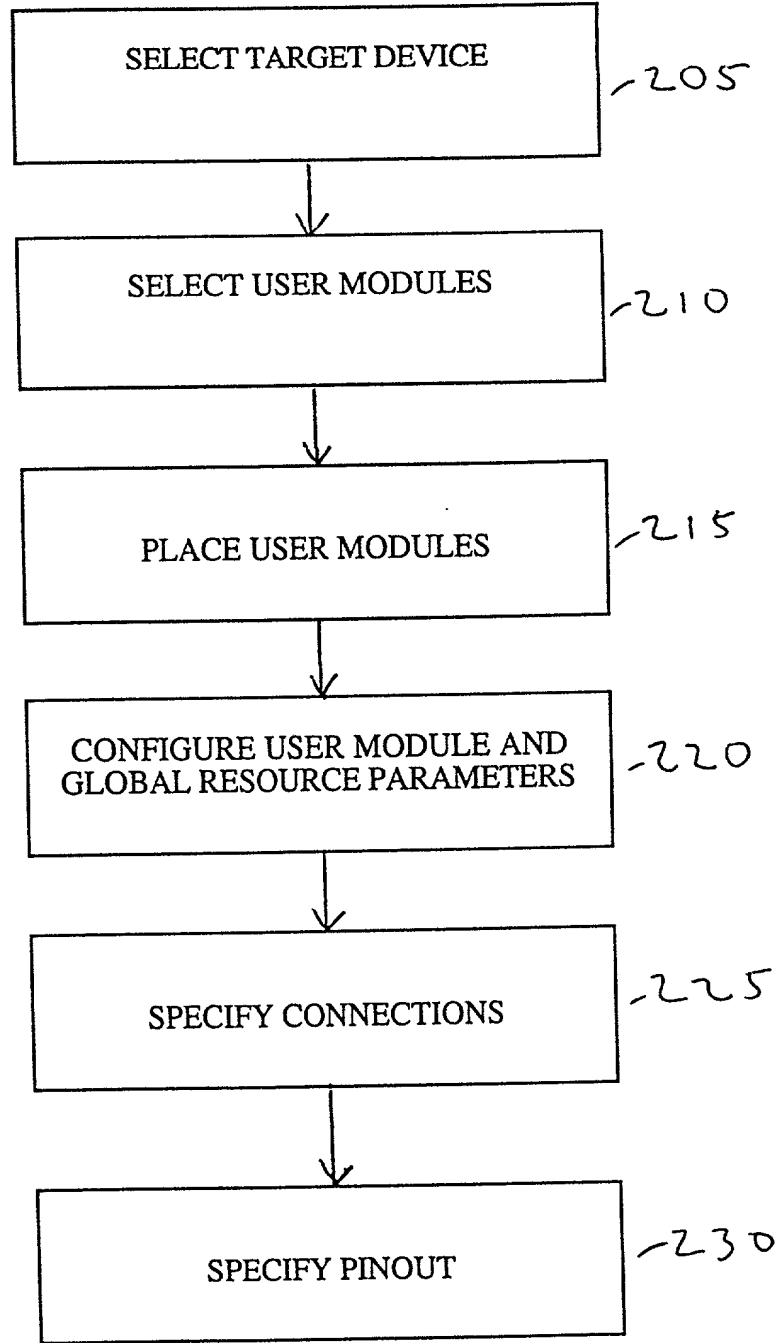


FIGURE 2A

30577 0094550

240

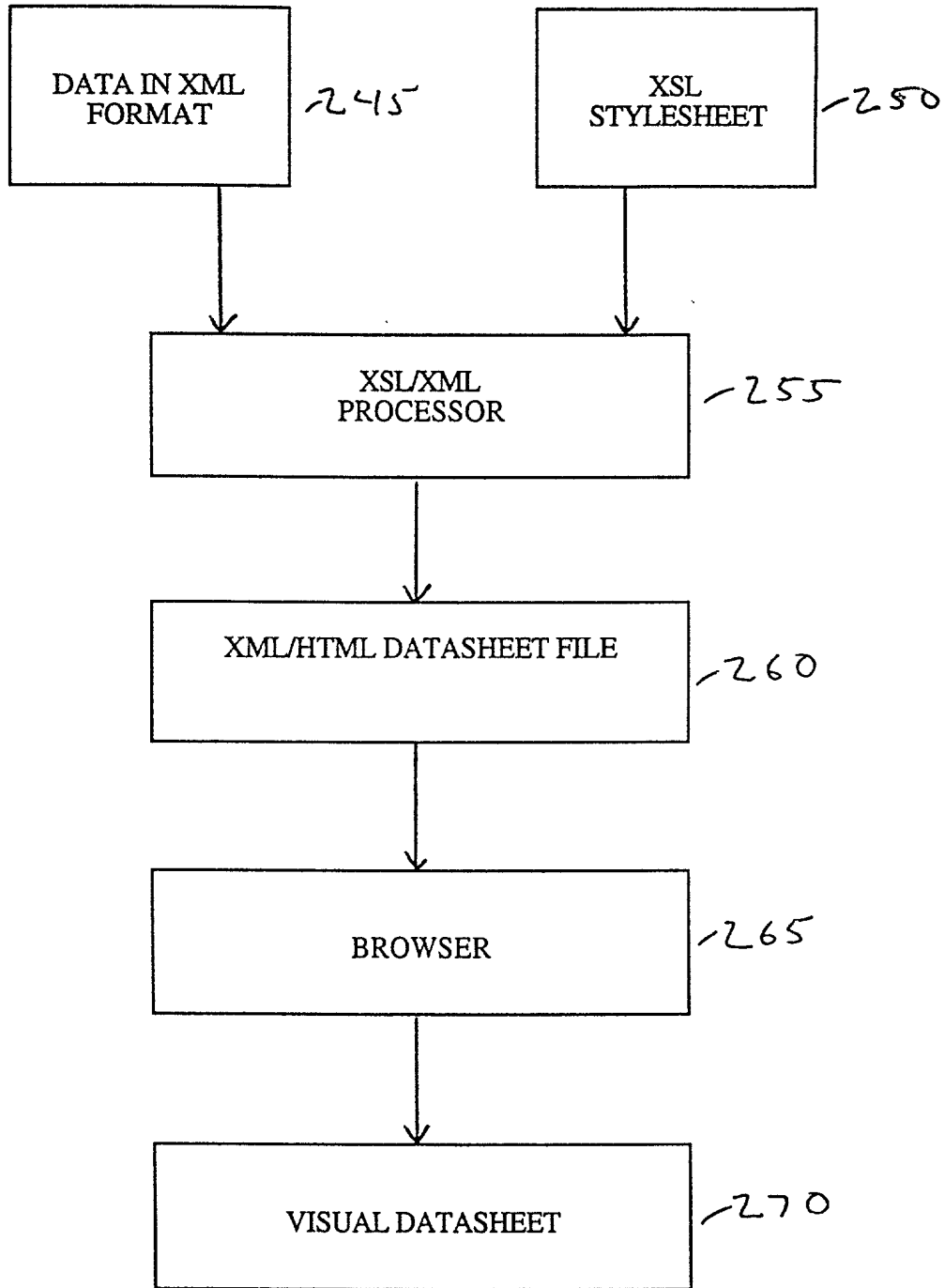


FIGURE 2B

```

<PSOC_DEVICE_DB>
  <PSOC_CONFIG_LIST>
    <PSOC_CONFIG NAME="patent8pin2" BASE_DEVICE="CY8C25122-24PI"
SOURCE_GEN_TIME="1004727340" CONFIG_SAVE_TIME="1004727340"
CONFIG_SAVE_DATE="Fri Nov 02 10:55:40 2001
" VERSION="2.0">
      <USER_MODULE_LIST> 31
        <USER_MODULE NAME="PWM16"
INSTANCE_NAME="PulseGenerator" VERSION="">
          <SHAPE SHAPE_TYPE="BLOCKLIST"
COLOR_INDEX="0">
            <BLOCK_LIST>
              <BLOCK NAME="PWM16_LSB"
TYPE="DIGITAL" LOCATION="0">
                <REGISTER_LIST>
                  <REGISTER
NAME="CONTROL_0" ADDR="23" VALUE="0"/>
                  <REGISTER
NAME="DATA_0" ADDR="20" VALUE="0"/>
                  <REGISTER
NAME="DATA_1" ADDR="21" VALUE="86"/>
                  <REGISTER
NAME="DATA_2" ADDR="22" VALUE="5c"/>
                  <REGISTER
NAME="DIG_BasicFunction" ADDR="120" VALUE="1"/>
                  <REGISTER
NAME="DIG_Input" ADDR="121" VALUE="e6"/>
                  <REGISTER
NAME="DIG_Output" ADDR="122" VALUE="0"/>
                </REGISTER_LIST>
                <INPUT_LIST/>
              </BLOCK>
              <BLOCK NAME="PWM16_MSB"
TYPE="DIGITAL" LOCATION="1">
                <REGISTER_LIST>
                  <REGISTER
NAME="CONTROL_0" ADDR="27" VALUE="0"/>
                  <REGISTER
NAME="DATA_0" ADDR="24" VALUE="0"/>
                  <REGISTER
NAME="DATA_1" ADDR="25" VALUE="0"/>
                  <REGISTER
NAME="DATA_2" ADDR="26" VALUE="0"/>
                  <REGISTER
NAME="DIG_BasicFunction" ADDR="124" VALUE="21"/>
                  <REGISTER
NAME="DIG_Input" ADDR="125" VALUE="36"/>
                  <REGISTER
NAME="DIG_Output" ADDR="126" VALUE="5"/>
                </REGISTER_LIST>
                <INPUT_LIST/>
            </BLOCK_LIST>
          </SHAPE SHAPE_TYPE="BLOCKLIST"
COLOR_INDEX="0">
        </USER_MODULE NAME="PWM16"
INSTANCE_NAME="PulseGenerator" VERSION="">
      </USER_MODULE_LIST>
    </PSOC_CONFIG NAME="patent8pin2" BASE_DEVICE="CY8C25122-24PI"
SOURCE_GEN_TIME="1004727340" CONFIG_SAVE_TIME="1004727340"
CONFIG_SAVE_DATE="Fri Nov 02 10:55:40 2001
" VERSION="2.0">
  </PSOC_CONFIG_LIST>
</PSOC_DEVICE_DB>

```

PULSE GENERATOR

FIGURE 3A



TEXT "0094650

```

                                </BLOCK>
                                </BLOCK_LIST>
                                <RESOURCE_LIST/>
                                </SHAPE>
                                <PARAMETER_LIST>
                                <PARAMETER NAME="Clock" VALUE="24V2"/>
                                <PARAMETER NAME="CompareType"
VALUE="Compare Less Than Or Equal"/>
                                <PARAMETER NAME="Enable"
VALUE="Global_IN_2"/>
                                <PARAMETER NAME="InterruptType"
VALUE="Terminal Count"/>
                                <PARAMETER NAME="Output"
VALUE="Global_OUT_1"/>
                                <PARAMETER NAME="Period" VALUE="134"/>
                                <PARAMETER NAME="PulseWidth"
VALUE="92"/>
                                </PARAMETER_LIST>
                                </USER_MODULE>
                                </USER_MODULE_LIST>
                                <DEVICE_DATA>
                                <GLOBAL_RESOURCE_LIST>
                                <RESOURCE NAME="24V1= 24MHz/N" VALUE="5"/>
                                <RESOURCE NAME="24V2= 24V1/N" VALUE="1"/>
                                <RESOURCE NAME="32K_Select" VALUE="Internal"/>
                                <RESOURCE NAME="A_Buff_Power" VALUE="Low"/>
                                <RESOURCE NAME="Analog Power" VALUE="SC On/Ref
Low"/>
                                <RESOURCE NAME="CPU_Clock" VALUE="12_MHz"/>
                                <RESOURCE NAME="Op-Amp Bias" VALUE="Low"/>
                                <RESOURCE NAME="PLL_Mode" VALUE="Disable"/>
                                <RESOURCE NAME="Ref Mux" VALUE="(Vcc/2)+/-
BandGap"/>
                                <RESOURCE NAME="Sleep_Timer" VALUE="512_Hz"/>
                                <RESOURCE NAME="SwitchModePump"
VALUE="OFF"/>
                                <RESOURCE NAME="VoltMonRange" VALUE="5.0V"/>
                                <RESOURCE NAME="VoltMonThreshold"
VALUE="80%"/>
                                </GLOBAL_RESOURCE_LIST>
                                <RESERVED_RESOURCE_LIST>
                                <RESOURCE NAME="" VALUE="" TYPE=""/>
                                <RESOURCE NAME="ASB11-ASA10" VALUE=""
TYPE="DIRECT_INPUT"/>
                                <RESOURCE NAME="ASB13-ASA12" VALUE=""
TYPE="DIRECT_INPUT"/>
                                <RESOURCE NAME="ASB20-ASA21" VALUE=""
TYPE="DIRECT_INPUT"/>
                                <RESOURCE NAME="ASB22-ASA23" VALUE=""
TYPE="DIRECT_INPUT"/>

```

FIGURE 3B

```

        <RESOURCE NAME="AnalogClock_0_Select" VALUE=""
TYPE="ANALOG_CLOCK_SELECT"/>
        <RESOURCE NAME="AnalogClock_1_Select" VALUE=""
TYPE="ANALOG_CLOCK_SELECT"/>
        <RESOURCE NAME="AnalogColumn_Clock_0"
VALUE="24V1" TYPE="ANALOG_COLUMN_CLOCK_MUX"/>
        <RESOURCE NAME="AnalogColumn_Clock_1"
VALUE="24V1" TYPE="ANALOG_COLUMN_CLOCK_MUX"/>
        <RESOURCE NAME="AnalogColumn_Clock_2"
VALUE="24V1" TYPE="ANALOG_COLUMN_CLOCK_MUX"/>
        <RESOURCE NAME="AnalogColumn_Clock_3"
VALUE="24V1" TYPE="ANALOG_COLUMN_CLOCK_MUX"/>
        <RESOURCE NAME="AnalogColumn_InputMUX_0"
VALUE="Port_0_1" TYPE="COLUMN_INPUT"/>
        <RESOURCE NAME="AnalogColumn_InputMUX_1"
VALUE="Port_0_4" TYPE="COLUMN_INPUT"/>
        <RESOURCE NAME="AnalogColumn_InputMUX_2"
VALUE="Port_0_5" TYPE="COLUMN_INPUT"/>
        <RESOURCE NAME="AnalogColumn_InputMUX_3"
VALUE="Port_0_0" TYPE="COLUMN_INPUT"/>
        <RESOURCE NAME="AnalogColumn_InputSelect_1"
VALUE="AnalogColumn_InputMUX_1" TYPE="COLUMN_INPUT_SELECT"/>
        <RESOURCE NAME="AnalogColumn_InputSelect_2"
VALUE="AnalogColumn_InputMUX_2" TYPE="COLUMN_INPUT_SELECT"/>
        <RESOURCE NAME="AnalogComparatorControl_0"
VALUE="" TYPE="ANALOG_COMPARATOR_CONTROL"/>
        <RESOURCE NAME="AnalogComparatorControl_1"
VALUE="" TYPE="ANALOG_COMPARATOR_CONTROL"/>
        <RESOURCE NAME="AnalogComparatorControl_2"
VALUE="" TYPE="ANALOG_COMPARATOR_CONTROL"/>
        <RESOURCE NAME="AnalogComparatorControl_3"
VALUE="" TYPE="ANALOG_COMPARATOR_CONTROL"/>
        <RESOURCE NAME="AnalogModulator_Col_0"
VALUE="None" TYPE="ANALOG_MODULATOR"/>
        <RESOURCE NAME="AnalogModulator_Col_2"
VALUE="None" TYPE="ANALOG_MODULATOR"/>
        <RESOURCE NAME="AnalogOutBuf_0" VALUE="OFF"
TYPE="ANALOG_DRIVER"/>
        <RESOURCE NAME="AnalogOutBuf_1" VALUE="OFF"
TYPE="ANALOG_DRIVER"/>
        <RESOURCE NAME="AnalogOutBuf_2" VALUE="OFF"
TYPE="ANALOG_DRIVER"/>
        <RESOURCE NAME="AnalogOutBuf_3" VALUE="OFF"
TYPE="ANALOG_DRIVER"/>
        <RESOURCE NAME="AnalogOutBus_0" VALUE=""
TYPE="ANALOG_COLUMN_OUTPUT"/>
        <RESOURCE NAME="AnalogOutBus_1" VALUE=""
TYPE="ANALOG_COLUMN_OUTPUT"/>
        <RESOURCE NAME="AnalogOutBus_2" VALUE=""
TYPE="ANALOG_COLUMN_OUTPUT"/>

```

FIGURE 3C



```

TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="GLOBAL_BUS"/>
TYPE="PIN"/>
TYPE="PIN"/>
TYPE="PIN"/>
Down" TYPE="PIN"/>
TYPE="PIN"/>
Down" TYPE="PIN"/>
TYPE="PIN"/>
Down" TYPE="PIN"/>
TYPE="PIN"/>
Down" TYPE="PIN"/>
(Strong)" TYPE="PIN"/>
TYPE="PIN"/>
TYPE="TEMPERATURE_VOLTAGE"/>
ADDR="161"/>
VALUE="0" ADDR="160"/>
<RESOURCE NAME="Global_IN_7" VALUE=""
<RESOURCE NAME="Global_OUT_0" VALUE=""
<RESOURCE NAME="Global_OUT_1" VALUE=""
<RESOURCE NAME="Global_OUT_2" VALUE=""
<RESOURCE NAME="Global_OUT_3" VALUE=""
<RESOURCE NAME="Global_OUT_4" VALUE=""
<RESOURCE NAME="Global_OUT_5" VALUE=""
<RESOURCE NAME="Global_OUT_6" VALUE=""
<RESOURCE NAME="Global_OUT_7" VALUE=""
<RESOURCE NAME="Port_0_2" VALUE="Global_IN_2"
<RESOURCE NAME="Port_0_2_Drive" VALUE="High Z"
<RESOURCE NAME="Port_0_4" VALUE="StdCPU"
<RESOURCE NAME="Port_0_4_Drive" VALUE="Pull
<RESOURCE NAME="Port_0_5" VALUE="StdCPU"
<RESOURCE NAME="Port_0_5_Drive" VALUE="Pull
<RESOURCE NAME="Port_0_7" VALUE="StdCPU"
<RESOURCE NAME="Port_0_7_Drive" VALUE="Pull
<RESOURCE NAME="Port_1_0" VALUE="StdCPU"
<RESOURCE NAME="Port_1_0_Drive" VALUE="Pull
<RESOURCE NAME="Port_1_1" VALUE="Global_OUT_1
<RESOURCE NAME="Port_1_1_Drive" VALUE="Strong"
<RESOURCE NAME="VT" VALUE=""
</RESERVED_RESOURCE_LIST>
<GLOBAL_REGISTER_LIST>
<REGISTER NAME="AnalogClockSelect" VALUE="0"
<REGISTER NAME="AnalogColumnClockSelect"

```

FIGURE 3E

VALUE="28" ADDR="60"/>	<REGISTER NAME="AnalogColumnInputSelect"
ADDR="162"/>	<REGISTER NAME="AnalogIOControl" VALUE="0"
VALUE="0" ADDR="163"/>	<REGISTER NAME="AnalogModulatorControl"
ADDR="63"/>	<REGISTER NAME="AnalogReferenceControl" VALUE="5"
ADDR="65"/>	<REGISTER NAME="AnalogSyncControl" VALUE="0"
ADDR="e6"/>	<REGISTER NAME="DecimatorControl" VALUE="0"
ADDR="1e1"/>	<REGISTER NAME="OscillatorControl_1" VALUE="40"
ADDR="2"/>	<REGISTER NAME="Port_0_Bypass" VALUE="4"
ADDR="100"/>	<REGISTER NAME="Port_0_DriveMode_0" VALUE="0"
ADDR="101"/>	<REGISTER NAME="Port_0_DriveMode_1" VALUE="4"
ADDR="6"/>	<REGISTER NAME="Port_1_Bypass" VALUE="2"
ADDR="104"/>	<REGISTER NAME="Port_1_DriveMode_0" VALUE="2"
ADDR="105"/>	<REGISTER NAME="Port_1_DriveMode_1" VALUE="0"
ADDR="a"/>	<REGISTER NAME="Port_2_Bypass" VALUE="0"
ADDR="108"/>	<REGISTER NAME="Port_2_DriveMode_0" VALUE="0"
ADDR="109"/>	<REGISTER NAME="Port_2_DriveMode_1" VALUE="0"
ADDR="e"/>	<REGISTER NAME="Port_3_Bypass" VALUE="0"
ADDR="10c"/>	<REGISTER NAME="Port_3_DriveMode_0" VALUE="0"
ADDR="10d"/>	<REGISTER NAME="Port_3_DriveMode_1" VALUE="0"
ADDR="12"/>	<REGISTER NAME="Port_4_Bypass" VALUE="0"
ADDR="110"/>	<REGISTER NAME="Port_4_DriveMode_0" VALUE="0"
ADDR="111"/>	<REGISTER NAME="Port_4_DriveMode_1" VALUE="0"
ADDR="16"/>	<REGISTER NAME="Port_5_Bypass" VALUE="0"
ADDR="114"/>	<REGISTER NAME="Port_5_DriveMode_0" VALUE="0"
ADDR="115"/>	<REGISTER NAME="Port_5_DriveMode_1" VALUE="0"

FIGURE 3F

```
<REGISTER NAME="VoltageMonitorControl" VALUE="84"
```

```
ADDR="1e3"/>
```

```
</GLOBAL_REGISTER_LIST>
```

```
<PIN_DESC_LIST>
```

```
<PIN_DESC PIN_NUMBER="1" PIN_LABEL="P0[7]"
```

```
PIN_SELECT="StdCPU" PIN_DRIVE="Pull Down"/>
```

```
<PIN_DESC PIN_NUMBER="2" PIN_LABEL="P0[5]"
```

```
PIN_SELECT="StdCPU" PIN_DRIVE="Pull Down"/>
```

```
<PIN_DESC PIN_NUMBER="3" PIN_LABEL="P1[1]"
```

```
PIN_SELECT="Global_OUT_1 (Strong)" PIN_DRIVE="Strong"/>
```

```
<PIN_DESC PIN_NUMBER="4" PIN_LABEL="VSS"
```

```
PIN_SELECT="" PIN_DRIVE=""/>
```

```
<PIN_DESC PIN_NUMBER="5" PIN_LABEL="P1[0]"
```

```
PIN_SELECT="StdCPU" PIN_DRIVE="Pull Down"/>
```

```
<PIN_DESC PIN_NUMBER="6" PIN_LABEL="P0[2]"
```

```
PIN_SELECT="Global_IN_2" PIN_DRIVE="High Z"/>
```

```
<PIN_DESC PIN_NUMBER="7" PIN_LABEL="P0[4]"
```

```
PIN_SELECT="StdCPU" PIN_DRIVE="Pull Down"/>
```

```
<PIN_DESC PIN_NUMBER="8" PIN_LABEL="VCC"
```

```
PIN_SELECT="" PIN_DRIVE=""/>
```

```
</PIN_DESC_LIST>
```

```
</DEVICE_DATA>
```

```
<CONFIG_PREFERENCES>
```

```
<SELECTED_USER_MODULE_LIST/>
```

```
</CONFIG_PREFERENCES>
```

```
</PSOC_CONFIG>
```

```
</PSOC_CONFIG_LIST>
```

```
</PSOC_DEVICE_DB>
```

32

PORT "00946560"

FIGURE 3G

```

<?xml version="1.0"?>
<xsl:stylesheet xmlns:xsl="http://www.w3.org/TR/WD-xsl">
<xsl:template match="/">

<HTML><HEAD>
  <STYLE>
    DIV.page { page-break-before: always }
  </STYLE>
</HEAD>
<BODY>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <TR><TD>
    <TABLE BORDER="0" CELLSPACING="0">
      <TR><TD>
        <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-
serif;
                                font-size:12pt; color:blue;
                                text-align:center; letter-spacing:6px;
                                font-weight:bold">
                                  PSoC Designer Configuration Sheet
        </DIV>
      </TD></TR>
    </TABLE>
  <TR>
    <TD><IMG SRC="cyp.jpg" ALIGN="LEFT"
WIDTH="350"/></TD>
  </TR>
</TABLE>
  <TD><TABLE BORDER="0" CELLSPACING="0">
    <xsl:for-each select="//PSOC_CONFIG_LIST/PSOC_CONFIG">
      <TR><TD>
        <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-
serif;
                                font-size:10pt; color:black;
                                text-align:center; letter-spacing:6px;
                                font-weight:bold">
                                  <xsl:apply-templates select="@NAME"/>
        </DIV>
      </TD></TR>
      <TR>
        <TD><xsl:apply-templates select="@BASE_DEVICE"/></TD>
      </TR>
      <TR><TD>
        <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-
serif;
                                font-size:12pt; color:black;
                                text-align:center; letter-spacing:6px;
                                font-weight:bold">
                                  <xsl:value-of
select="@CONFIG_SAVE_DATE"/>
        </DIV>
      </TD>
    </xsl:for-each>
  </TABLE>
</TD>
</TR>
</BODY>
</HTML>

```

FIGURE 4A

FIGURE 4A

FIGURE 4B

```

        </TD></TR>
      </xsl:for-each>
    </TABLE></TD>
  </TR>
</TABLE>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <TR ALIGN="CENTER">
    <xsl:for-each select="//USER_MODULE_LIST/USER_MODULE">
      <TD><IMG>
        <xsl:attribute name="src">
          <xsl:value-of select="@NAME" />_icon.gif 41
        </xsl:attribute>
      </IMG></TD>
    </xsl:for-each>
  </TR>
</TABLE>
<P></P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Signal Pin Table
  </DIV>
  <TR><TD WIDTH="320">
    <TABLE BORDER="1" CELLSPACING="0" ALIGN="CENTER">
      <TR ALIGN="CENTER">
        <TD>Pin#</TD>
        <TD>Label</TD>
        <TD>Select</TD>
        <TD>Drive</TD>
      </TR>
      <xsl:for-each select="//PIN_DESC_LIST/PIN_DESC">
        <TR ALIGN="CENTER">
          <TD><xsl:apply-templates
select="@PIN_NUMBER"/></TD>
          <TD ><xsl:apply-templates
select="@PIN_LABEL"/></TD>
          <TD ><xsl:apply-templates
select="@PIN_SELECT"/></TD>
          <TD><xsl:apply-templates
select="@PIN_DRIVE"/></TD>
        </TR>
      </xsl:for-each>
    </TABLE>
  </TD>
  <TD>
    <TABLE BORDER="0" CELLSPACING="0">
      <TR>
        <TD><IMG SRC="part.jpg"/></TD>
      </TR>
    </TABLE>
  </TD>
</TR>
</TABLE>

```

FIGURE 4B



FOOT" 0094660

```

</TABLE>
</TD></TR>
</TABLE>
</P>
</P></P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Selected Global Parameters
  </DIV>
  <TR>
    <TD>Name</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="//GLOBAL_RESOURCE_LIST/RESOURCE">
    <TR>
      <TD><xsl:apply-templates select="@NAME"/></TD>
      <TD><xsl:apply-templates select="@VALUE"/></TD>
    </TR>
  </xsl:for-each>
</TABLE>
<xsl:for-each select="//USER_MODULE_LIST/USER_MODULE">
  <DIV CLASS="page">
    <BR/><BR/><BR/>
  </DIV>
  <TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
    <TR><TD>
      <TABLE BORDER="0" CELLSPACING="0">
        <TR><TD ALIGN="CENTER">
          <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-
            serif;
              font-size:12pt; color:blue;
              text-align:center; letter-spacing:6px;
              font-weight:bold">
                User Module Detail
              <xsl:value-of select="@NAME"/>
            </DIV>
          </TD></TR>
        <TR>
          <TD><IMG SRC="cyp.jpg" ALIGN="LEFT"
            WIDTH="350"/></TD>
        </TR>
      </TABLE></TD>
    </TR>
  </TABLE></TD>
  <TD>
    <TABLE BORDER="0" CELLSPACING="0" ALIGN="CENTER">
      <TR><TD><IMG
        <xsl:attribute name="src">
          <xsl:value-of select="@NAME" />_icon.gif
        </xsl:attribute>

```

FIGURE 4C

```

        </IMG></TD></TR>
    </TABLE>
</TD></TR>
</TABLE>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <TR><TD><IMG>
    <xsl:attribute name="src">
      <xsl:value-of select="@NAME" />_block.gif
    </xsl:attribute>
  </IMG></TD></TR>
</TABLE>
</P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Parameters

  </DIV>
  <TR
    STYLE="font-family:Tahoma,Arial,sans-serif;
    font-size:10pt; color:red;
    text-align:center; letter-spacing:8px;
    font-weight:bold">
    <TD>Parameters</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="PARAMETER_LIST/PARAMETER">
    <TR>
      <TD><xsl:apply-templates select="@NAME"/></TD>
      <TD><xsl:apply-templates select="@VALUE"/></TD>
    </TR>
  </xsl:for-each>
</TABLE>
<BR>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Blocks

  </DIV>
  <xsl:for-each select="SHAPE">
    <xsl:for-each select="BLOCK_LIST/BLOCK">
      <TR><TR><TR>
      <TR
        STYLE="font-family:Tahoma,Arial,sans-serif;
        font-size:11pt; color:red;
        text-align:center; letter-spacing:8px;
        font-weight:bold">
      <TD>

```

FIGURE 4D

TEXT "0054660"

serif;

```

<DIV STYLE="media=print;font-family:Tahoma,Arial,sans-
font-size:12pt; color:blue;
text-align:center; letter-spacing:6px;
font-weight:bold">
Block
</DIV>
</TD>
<TD>Type</TD>
<TD>Location</TD>
</TR>
<TR>
<TD><xsl:apply-templates select="@NAME"/></TD>
<TD><xsl:apply-templates select="@TYPE"/></TD>
<TD><xsl:apply-templates select="@LOCATION"/></TD>
</TR>
<TR>
STYLE="font-family:Tahoma,Arial,sans-serif;
font-size:10pt; color:red;
text-align:center; letter-spacing:8px;
font-weight:bold">
<TD>Registers</TD>
<TD>Address</TD>
<TD>Value</TD>
</TR>
<xsl:for-each select="REGISTER_LIST/REGISTER">
<TR>
<TD><xsl:apply-templates select="@NAME"/></TD>
<TD><xsl:apply-templates select="@ADDR"/></TD>
<TD><xsl:apply-templates select="@VALUE"/></TD>
</TR>
</xsl:for-each>
<TR HEIGHT="10"/>
</xsl:for-each>
</xsl:for-each>
</TABLE>
</xsl:for-each>
<DIV CLASS="page">
<BR/><BR/><BR/>
</DIV>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
<TR><TD>
<TABLE BORDER="0" CELLSPACING="0">
<TR><TD><IMG SRC="cyp.jpg" ALIGN="LEFT"
WIDTH="350"/></TD></TR>
</TABLE>
</TD>
<TD>
<TABLE BORDER="0" CELLSPACING="0" ALIGN="CENTER">
<TR><TD>
<DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;

```

FIGURE 4E

TEXT "0094660

font-size:16pt; color:blue;  
text-align:center; letter-spacing:6px;  
font-weight:bold">  
Appendix

```

</DIV>
</TD></TR>
</TABLE>
</TD></TR>
</TABLE>
<P></P>
<TABLE BORDER="1" CELSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Pin

  </DIV>
  <TR>
    <TD>Name</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="//RESERVED_RESOURCE_LIST/RESOURCE">
    <xsl:if match="RESOURCE[@TYPE='PIN']">
      <TR>
        <TD><xsl:apply-templates select="@NAME"/></TD>
        <TD><xsl:apply-templates select="@VALUE"/></TD>
      </TR>
    </xsl:if>
  </xsl:for-each>
</TABLE>
<P></P>
<TABLE BORDER="1" CELSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Analog Clocks

  </DIV>
  <TR><TD>Name</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="//RESERVED_RESOURCE_LIST/RESOURCE">
    <xsl:if match="RESOURCE[@TYPE='ANALOG_CLOCK_SELECT']">
      <TR>
        <TD><xsl:apply-templates select="@NAME"/></TD>
        <TD><xsl:apply-templates select="@VALUE"/></TD>
      </TR>
    </xsl:if>
  </xsl:for-each>
  <xsl:for-each select="//RESERVED_RESOURCE_LIST/RESOURCE">
    <xsl:if match="RESOURCE[@TYPE='ANALOG_COLUMN_CLOCK_MUX']">

```

FIGURE 4F

FOUO "00546560"

```
<TR>
  <TD><xsl:apply-templates select="@NAME"/></TD>
  <TD><xsl:apply-templates select="@VALUE"/></TD>
</TR>
</xsl:if>
</xsl:for-each>
</TABLE>
<P></P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Analog Input MUX
  </DIV>
  <TR>
    <TD>Name</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="//RESERVED_RESOURCE_LIST/RESOURCE">
    <xsl:if match="RESOURCE[@TYPE='COLUMN_INPUT']">
      <TR>
        <TD><xsl:apply-templates select="@NAME"/></TD>
        <TD><xsl:apply-templates select="@VALUE"/></TD>
      </TR>
    </xsl:if>
  </xsl:for-each>
</TABLE>
<P></P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
  <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
    font-size:12pt; color:blue;
    text-align:center; letter-spacing:6px;
    font-weight:bold">
    Analog Buffer Output
  </DIV>
  <TR>
    <TD>Name</TD>
    <TD>Value</TD>
  </TR>
  <xsl:for-each select="//RESERVED_RESOURCE_LIST/RESOURCE">
    <xsl:if match="RESOURCE[@TYPE='ANALOG_DRIVER']">
      <TR>
        <TD><xsl:apply-templates select="@NAME"/></TD>
        <TD><xsl:apply-templates select="@VALUE"/></TD>
      </TR>
    </xsl:if>
  </xsl:for-each>
</TABLE>
<P></P>
<TABLE BORDER="1" CELLSPACING="0" WIDTH="640">
```

FIGURE 4G

TEXT "00346660"

```
<DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
font-size:12pt; color:blue;
text-align:center; letter-spacing:6px;
font-weight:bold">
    Global Register Values
</DIV>
<TR>
    <TD>Name</TD>
    <TD>Address</TD>
    <TD>Value</TD>
</TR>
<xsl:for-each select="//GLOBAL_REGISTER_LIST/REGISTER">
    <TR>
        <TD><xsl:apply-templates select="@NAME"/></TD>
        <TD><xsl:apply-templates select="@ADDR"/></TD>
        <TD><xsl:apply-templates select="@VALUE"/></TD>
    </TR>
</xsl:for-each>
</TABLE>
</BODY> </HTML>
</xsl:template>

<xsl:template match="@NAME">
    <B><xsl:value-of /></B>
</xsl:template>

<xsl:template match="@VALUE">
    <xsl:value-of />
</xsl:template>

<xsl:template match="@INSTANCE_NAME">
    <B><xsl:value-of /></B>
</xsl:template>

<xsl:template match="@SOURCE_GEN_TIME">
    <xsl:value-of />
</xsl:template>

<xsl:template match="@BASE_DEVICE">
    <DIV STYLE="media=print;font-family:Tahoma,Arial,sans-serif;
font-size:12pt; color:blue;
text-align:center; letter-spacing:6px;
font-weight:bold">
        <xsl:value-of />
    </DIV>
</xsl:template>

<xsl:template match="@TYPE">
    <xsl:value-of />
</xsl:template>
```

FIGURE 4H

```

<xsl:template match="@LOCATION">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@REGISTER_NAME">
  <B><xsl:value-of /></B>
</xsl:template>

<xsl:template match="@REGISTER_VALUE">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@ADDR">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@PIN_NUMBER">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@PIN_LABEL">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@PIN_SELECT">
  <xsl:value-of />
</xsl:template>

<xsl:template match="@PIN_DRIVE">
  <xsl:value-of />
</xsl:template>

</xsl:stylesheet>

```

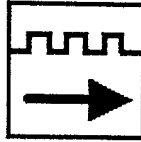
FIGURE 4I



CYPRESS MICROSYSTEMS

501 ~ patent 8 pin 2  
CY8C25122-24PI  
Fri Nov 02 10:55:40  
2001

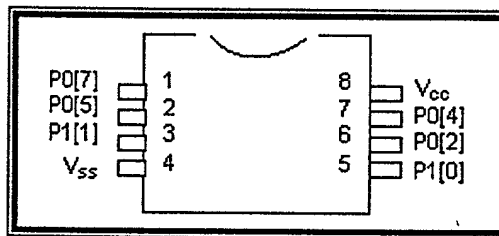
502 ~



503 ~ Signal Pin Table

Pin#	Label	Select	Drive
1	P0[7]	StdCPU	Pull Down
2	P0[5]	StdCPU	Pull Down
3	P1[1]	Global_OUT_1 (Strong)	Strong
4	VSS		
5	P1[0]	StdCPU	Pull Down
6	P0[2]	Global_IN_2	High Z
7	P0[4]	StdCPU	Pull Down
8	VCC		

25122 PDIP 504

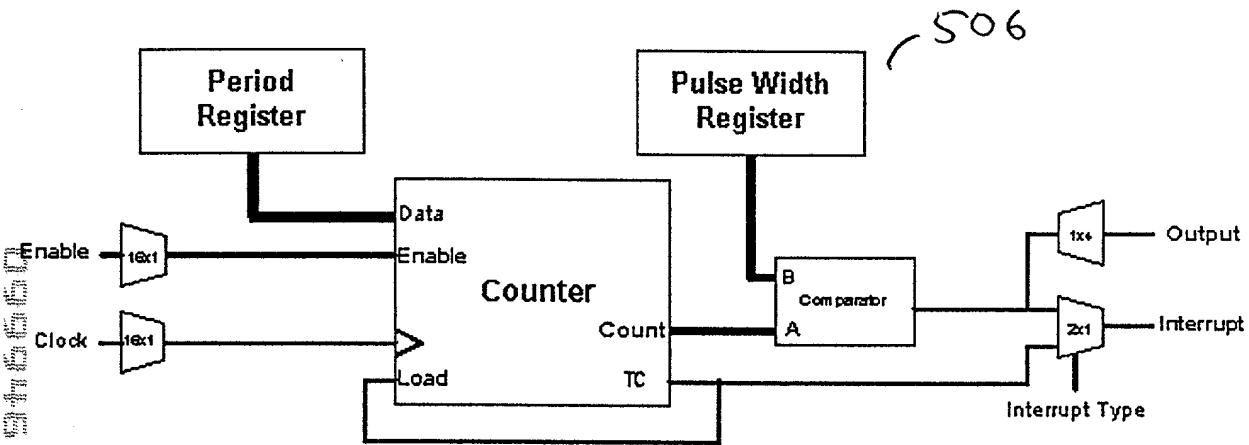
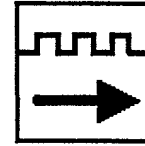


505 ~ Selected Global Parameters

Name	Value
24V1= 24MHz/N	5
24V2= 24V1/N	1
32K_Select	Internal
A_Buff_Power	Low
Analog Power	SC On/Ref Low
CPU_Clock	12_MHz
Op-Amp Bias	Low
PLL_Mode	Disable
Ref Mux	(Vcc/2)+/-BandGap
Sleep_Timer	512_Hz
SwitchModePump	OFF
VoltMonRange	5.0V
VoltMonThreshold	80%

FIGURE 5A





507 - Parameters

Parameters	Value
Clock	24V2
CompareType	Compare Less Than Or Equal
Enable	Global_IN_2
InterruptType	Terminal Count
Output	Global_OUT_1
Period	134
PulseWidth	92

FIGURE 5B

508-Blocks

Block	Type	Location
PWM16_LSB	DIGITAL	0
Registers	Address	Value
CONTROL_0	23	0
DATA_0	20	0
DATA_1	21	86
DATA_2	22	5c
DIG_BasicFunction	120	1
DIG_Input	121	e6
DIG_Output	122	0
Block	Type	Location
PWM16_MSB	DIGITAL	1
Registers	Address	Value
CONTROL_0	27	0
DATA_0	24	0
DATA_1	25	0
DATA_2	26	0
DIG_BasicFunction	124	21
DIG_Input	125	36
DIG_Output	126	5

T05FF

FIGURE 5C



509 Pin

Name	Value
Port_0_2	Global_IN_2
Port_0_2_Drive	High Z
Port_0_4	StdCPU
Port_0_4_Drive	Pull Down
Port_0_5	StdCPU
Port_0_5_Drive	Pull Down
Port_0_7	StdCPU
Port_0_7_Drive	Pull Down
Port_1_0	StdCPU
Port_1_0_Drive	Pull Down
Port_1_1	Global_OUT_1 (Strong)
Port_1_1_Drive	Strong

510 Analog Clocks

Name	Value
AnalogClock_0_Select	
AnalogClock_1_Select	
AnalogColumn_Clock_0	24V1
AnalogColumn_Clock_1	24V1
AnalogColumn_Clock_2	24V1
AnalogColumn_Clock_3	24V1

511 Analog Input MUX

Name	Value
AnalogColumn_InputMUX_0	Port_0_1
AnalogColumn_InputMUX_1	Port_0_4
AnalogColumn_InputMUX_2	Port_0_5
AnalogColumn_InputMUX_3	Port_0_0

FIGURE 5D

### 512-Analog Buffer Output

Name	Value
AnalogOutBuf_0	OFF
AnalogOutBuf_1	OFF
AnalogOutBuf_2	OFF
AnalogOutBuf_3	OFF

### 513-Global Register Values

Name	Address	Value
AnalogClockSelect	161	0
AnalogColumnClockSelect	160	0
AnalogColumnInputSelect	60	28
AnalogIOControl	162	0
AnalogModulatorControl	163	0
AnalogReferenceControl	63	5
AnalogSyncControl	65	0
DecimatorControl	e6	0
OscillatorControl_1	1e1	40
Port_0_Bypass	2	4
Port_0_DriveMode_0	100	0
Port_0_DriveMode_1	101	4
Port_1_Bypass	6	2
Port_1_DriveMode_0	104	2
Port_1_DriveMode_1	105	0
Port_2_Bypass	a	0
Port_2_DriveMode_0	108	0
Port_2_DriveMode_1	109	0
Port_3_Bypass	e	0
Port_3_DriveMode_0	10c	0
Port_3_DriveMode_1	10d	0
Port_4_Bypass	12	0
Port_4_DriveMode_0	110	0
Port_4_DriveMode_1	111	0
Port_5_Bypass	16	0
Port_5_DriveMode_0	114	0
Port_5_DriveMode_1	115	0
VoltageMonitorControl	1e3	84

FIGURE 5E